

## Section 1: PRODUCT AND COMPANY IDENTIFICATION

### American Metal Chemical Company

835 West Smith Road  
Medina, Ohio 44256-2424

Company Phone Number: (330) 725-4501 (24 hours)  
Company Fax Number: (330) 723-0487

3546 South Morgan Street  
Chicago, Illinois 60609-1524

Company Phone Number: (773) 254-1818  
Company Fax Number: (773) 254-4722

**Product Name:** NS-411  
**Recommended Use:** Non-ferrous flux.  
**Issue Date:** 01/02/2009  
**Supersedes Date:** 01/31/2006

**Synonym Name:** N/A

## Section 2: HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

**May cause eye irritation.**  
**Contains fluoride.**  
**Irritating to eyes, skin and mucous membranes.**  
**Ingestion may cause vomiting, abdominal cramps and diarrhea.**

**OSHA regulatory status:** This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

### Potential acute health effects:

Inhalation: Inhalation may cause irritation or minor burning of mucous membranes.

Skin: Contact with product and/or by-product could cause irritation on the skin.

Eyes: Contact with the product and/or by-product could cause irritation, pain, tearing, reddening, swelling and itching of the eyes.

Ingestion: Contact could cause mild to violent stomach disorders such as diarrhea, upset stomach, burning sensations and digestive tract bleeding. If elimination is blocked by another disorder, ingestion may affect central nervous system.

### Potential chronic health effects:

Carcinogenic Effects: Not classified or listed by IARC, NTP, OSHA, EU or ACGIH.

Mutagenic Effects: Not known to be mutagenic.

Other: Chronic exposure to fluorides well above the PEL or TLV may cause bone fluorosis. Prolonged exposure of skin to the product may cause dermatitis.

**Target organs:** Eyes, lungs, kidneys, bones and skin. See Section 11 for Toxicological Information.

**Potential environmental effects:** Fluorides can be highly toxic, especially to fish and aquatic plants. Cleanup spills promptly to avoid product entering the environment. See Section 12 for Ecological Information.

### Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

<u>Chemical Name</u>	<u>CAS No.</u>	<u>EC No.</u>	<u>% by Wt.</u>
a. Sodium Nitrate	7631-99-4	231-554-3	5 to 15%
b. Sodium Fluorosilicate	16893-85-9	240-934-8	5 to 15%
c. Non-hazardous salts			Balance

### Section 4: FIRST AID MEASURES

**Probable Routes of Exposure:** Inhalation / Skin / Eyes

**Skin Contact:** Wash with soap and water. If pain or irritation persists, refer to physician.

**Eye Contact:** Flush with running water for at least 15 minutes. Refer to physician.

**Ingestion:** Call Poison Control Center. Never give anything by mouth to someone who is unconscious or convulsing. Induce vomiting only on the advice of a medical professional.

**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing difficult, give oxygen. Refer to physician.

**Signs/Symptoms/Effects of Overexposure:** Irritation of eyes, skin, nausea.

### Section 5: FIRE FIGHTING MEASURES

**Flammable properties:** Product is non-flammable, but contains a small amount of oxidizer. Avoid mixing material with reducing agents or flammable liquids.

**Extinguishing Media:** Media used to extinguish surrounding area fire.

**Unsuitable Extinguishing Media:** N/A

**Special Fire Fighting Procedure:** Remove containers from fire area if safe to do so. Cool containers exposed to fire with water. Heat from surrounding fire may release toxic chlorine, fluorine or nitric oxide gas or acids from product.

**Special Protective Equipment for Fire Fighters:** Firefighters should wear approved self-contained breathing apparatus (SCBA) and full firefighting turnout gear. Use caution around sealed drums of any kind since pressure buildup from the surrounding fire may cause them to rupture.

### Section 6: ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

**Environmental Precautions:** This product is a water pollutant. Keep out of drains, sewers, ditches and waterways. Do not leave product exposed outdoors. Minimize the use of water in cleaning up spills to minimize water pollution.

**Methods for Containment:** This product is a granular solid. Protect from exposure to water, high winds or vehicular traffic that could disperse it. Clean up spills promptly. Avoid mixing product with reducing agents or flammable materials.

**Methods for Cleaning:** Ventilate area of leak or spill. Shovel or sweep up material and place in a suitable container for reclamation or disposal, using a method that does not generate excessive dust.

### Section 7: HANDLING AND STORAGE

**Handling:** Avoid breathing dust from this material. Wear safety glasses with side shields or chemical goggles to prevent eye injury. Provide adequate ventilation. In areas where the permissible exposure limit may be exceeded, wear appropriate respiratory protection. Wear PVC, Neoprene or similar polymeric gloves

when handling the material. Avoid prolonged contact with the skin. Wash hands and face thoroughly before eating, drinking or smoking.

**Storage:** Store in dry place below 150° F. Keep container closed when not in use. Observe shelf life for storage. Avoid storing near flammable materials or reducing agents.

## Section 8: EXPOSURE CONTROL/PERSONAL PROTECTION

### Exposure Guidelines:

Component	OSHA (PEL)		ACGIH (TLV)		Units
	TWA	STEL	TWA	STEL	
Sodium Nitrate (1)	15 (T)	N.E. (2)	10 (T)	N.E.	mg/m <sup>3</sup>
	5 (R)	N.E.	3 (R)	N.E.	mg/m <sup>3</sup>
Sodium Fluorosilicate	2.5 (as F-)	N.E.	2.5 (as F-)	N.E.	mg/m <sup>3</sup>

(1) No specific limits have been established for this component. As a guideline, OSHA has established limits for inert or nuisance dusts. Particulates not Otherwise Regulated (PNOR) have a total (T) dust TWA (8 hour) of 15 mg/m<sup>3</sup> and a respirable (R) dust TWA (8 hour) of 5 mg/m<sup>3</sup>. ACGIH has also established a TLV for inert, insoluble particulates total (T) dust TWA (8 hour) of 10mg/m<sup>3</sup> and a respirable (R) dust TWA (8 hour) of 3 mg/m<sup>3</sup>.

(2) N.E. = Not Established

**Engineering Controls:** Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below the recommended exposure limits.

**Personal Protective Equipment (PPE):** During normal use and operation, wear chemical goggles and impermeable gloves to minimize exposure. If airborne levels are at or above the recommended exposure limit or in the event the product is spilled, wear NIOSH-approved respiratory protection. Additional PPE may be necessary, depending on user operations to avoid prolonged contact of the product with skin.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Crystalline particles  
**Odor:** Odorless  
**pH:** N/A  
**Boiling Point:** N/A  
**Melting Point:** N/A  
**Flashpoint:** N/A  
**Explosive Properties:** N/A  
**Vapor Pressure:** N/A  
**Relative Density:** S.G./Apparent Density: 1.8 to 2.0 (Water = 1.0)  
 Vapor Density (Air=1): N/A

**Solubility:** High in Water

**Flash Point:** N/A

**Flammable Limits:** LEL: N/A UEL: N/A

**Hazardous Polymerization:** No

**Corrosive:** No

**Stable:** Yes **Unstable:** No

**Incompatibility:** Strong Acids, Strong Oxidizers, Reducing Agents.

**Thermal Decomposition Products:** Hydrogen chloride, hydrogen fluoride, fluorine gas or chlorine gas.

## Section 10: STABILITY AND REACTIVITY

**Stability:** Stable under ordinary conditions of use and storage.

**Hazardous Polymerization:** Will not occur.

**Incompatibilities:** Strong acids, Oxidizers, Reducing Agents.

**Hazardous Decomposition Products:** Hydrogen chloride and/or hydrogen fluoride in presence of heat and oxidizer. Chlorine and/or fluorine gas may be released in a fire.

## Section 11: TOXICOLOGICAL INFORMATION

<b>Acute Toxicity:</b>	LD50: Sodium Fluorosilicate	125 mg/kg	Oral Rat
	LD50: Sodium Nitrate	4300 mg/kg	Oral Rat

**Excessive Exposure May Affect Human Health as Follows:**

**Skin Contact:** Irritation. Prolonged exposure may cause dermatitis.

**Eye Contact:** Mechanical Irritation

**Inhalation:** Irritation.

**Reproductive Toxicity:** No

**Carcinogen:** No

**Other:** Chronic exposure of fluorides well above the TLV or PEL may cause bone fluorosis.

## Section 12: ECOLOGICAL INFORMATION

**Environmental Fate:** No information found.

**Environmental Toxicity:**

Fluorides:

Fluorides can be highly toxic to aquatic and terrestrial flora and fauna. Care should be taken to prevent the product from entering the environment.

## Section 13: DISPOSAL CONSIDERATIONS

Not an RCRA hazardous waste. Dispose of in accordance with local, state and Federal regulations.

Empty containers must be handled with care due to product residue. Do not heat or cut empty containers with electric or gas torch.

## Section 14: TRANSPORT INFORMATION

**Classification Data:**

DOT Information:		Proper Shipping Name:	Not Regulated
Hazard Class:	N/A	UN Number:	N/A
Reportable Quantity (lbs):	N/A	Packing Group:	N/A
Placard Requirement:	N/A		

## Section 15: REGULATORY INFORMATION

### Global Inventory Status:

Inventory	Status
United States (TSCA)	All components are listed.
Canada (DSL)	All components are listed.
Mexico	No components are listed.
European Union (EC)	All components are listed.
Japan (METI)	All components are listed or exempt from listing.
Philippines (PICCS)	All components are listed or exempt from listing.
South Korea (KECL)	All components are listed or exempt from listing.
Australia (AICS)	All components are listed or exempt from listing.
China	All components are listed or exempt from listing.

### SARA TITLE III

<b>Section 302 Extremely Hazardous Substances</b>	None
<b>Section 311/312 Hazard Categories</b>	
Acute Health	Yes - Irritation
Chronic Health	Yes- Fluorosis
Fire	No
Reactive	No
Sudden Release of Pressure	No
<b>Section 313 Toxic Chemicals</b>	None

**RCRA STATUS:** If discarded in its purchased form, this product would not be hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

**CANADIAN STATUS:** All components of this material are listed on the Canadian Domestic Substances List.

**EUROPEAN UNION:** All components of this material are listed in the EC.

### STATE REGULATORY INFORMATION:

(Letters in parenthesis refer to components listed in Section 3 of this MSDS.)

California Prop 65 – No components listed

Connecticut – No component subject to reporting in quantities less than 10,000 pounds.

Florida - No component subject to reporting in quantities less than 10,000 pounds.

New Jersey – Component ( b ) listed RTK Substance # 1701

New York - No components listed in 6 NYCRR Part 597 – Hazardous Substances List

Pennsylvania - No component subject to reporting in quantities less than 10,000 pounds.

Rhode Island – Component ( a ) is on the Hazardous Substances List

**Section 16: OTHER INFORMATION**

**Key/legend:**

ACGIH	American Council of Governmental Industrial Hygienists
CAS	Chemical Abstracts Service
CFR	Code of Federal Regulations
DSL	Domestic Substances List - Canada
EC	Existing Chemical Registered with EU European.Unio
EU	n
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration in water to 50% of aquatic test population
LD50	Lethal Dose to 50% of test population
N/A	Not applicable
NDSL	Non-Domestic Substances List -Canada
NTP	U.S. National Toxicology Program
OSHA	U.S. Occupational Safety & Health Administration
PEL	Permissible Exposure Limit
SG	Specific Gravity
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TSCA	U.S. Toxic Substances Control Act

Reason For Issue: Update To New Format

Prepared By: American Metal Chemical Company

Approved By: Erin Fauber

MSDS Number: NS-411

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